=> d his

(FILE 'HOME' ENTERED AT 11:48:01 ON 31 JAN 2003)
SET COST OFF

FILE 'REGISTRY' ENTERED AT 11:48:18 ON 31 JAN 2003
E CYTARABINE/CN
L1 2 S E3,E4
E DOXORUBICIN/CN
L2 1 S E3
E 5-FLUOROURACIL/CN
L3 1 S E3
L4 219 S (51-21-8 OR 23214-92-8 OR 147-94-4)/CRN

FILE 'HCAPLUS' ENTERED AT 11:50:18 ON 31 JAN 2003
E FRIL
L5 13 S E3
E AGGLUTIN/CT
L6 18713 S E27-E74
L7 1207 S E25,E26
E E27+ALL
L8 35033 S E3,E2+NT
E LECTIN/CT
E E6+ALL
L9 2 S E1
L10 6 S L5 AND L6-L9
L11 7 S L5 NOT L10
SEL DN AN 1 7
L12 2 S L11 AND E1-E6
L13 8 S L10,L12
L14 3 S L1-L4 AND L13
L15 3 S (CYTARABIN? OR DOXORUBICIN? OR 5 FU OR 5 FLUOROURACIL?) AND L
L16 6 S L13 AND (PROGENIT? OR ?HEMATOPO? OR ?HAEMATOPO?)
L17 4 S L13 AND FLT#
L18 8 S L13-L17
E COLUCCI M/AU
L19 41 S E3-E5,E10,E11
E CHRISPEELS M/AU
L20 263 S E4-E8
E MOORE J/AU
L21 198 S E3,E20,E21
E MOORE JEFF/AU
L22 24 S E3,E9,E16
E COLUCCI G/AU
L23 39 S E3-E6
L24 6 S L18 AND L19-L23
L25 3 S PHYLOG?/PA,CS AND L18
L26 8 S L18,L24,L25
L27 1 S ADRIAMYCIN AND L26
L28 8 S L26,L27
L29 8 S L28 AND ?FRIL?

FILE 'BIOSIS' ENTERED AT 12:00:52 ON 31 JAN 2003
E FRIL
L30 14 S E3
L31 6 S L30 AND LECTIN?
L32 8 S L30 NOT L31
L33 6 S L31 AND (COLUCCI ? OR CHRISPEELS ? OR MOORE ?)/AU

FILE 'MEDLINE' ENTERED AT 12:02:23 ON 31 JAN 2003
E FRIL
L34 10 S E3
SEL DN AN 4 6 8 9

DEL SEL
SEL DN AN 5 6 8 9 L34
L35 4 S L34 AND E1-E12
L36 4 S L35 AND (COLUCCI ? OR CHRISPEELS ? OR MOORE ?)/AU

FILE 'HCAPLUS, BIOSIS, MEDLINE' ENTERED AT 12:06:21 ON 31 JAN 2003
L37 12 DUP REM L29 L33 L36 (6 DUPLICATES REMOVED)

=> fil hcaplus biosis medline
FILE 'HCAPLUS' ENTERED AT 12:07:03 ON 31 JAN 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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FILE 'BIOSIS' ENTERED AT 12:07:03 ON 31 JAN 2003

FILE 'MEDLINE' ENTERED AT 12:07:03 ON 31 JAN 2003

=> d 137 all tot

L37 ANSWER 1 OF 12 HCAPLUS COPYRIGHT 2003 ACS DUPLICATE 1
AN 2000:380795 HCAPLUS
DN 133:204469
TI The Role of Weak Protein-Protein Interactions in Multivalent Lectin-Carbohydrate Binding: Crystal Structure of Cross-linked **FRIL**
AU Hamelryck, Thomas W.; **Moore, Jeffrey G.**; **Chrispeels, Maarten J.**; Loris, Remy; Wyns, Lode
CS Laboratorium voor Ultrastructuur, Vlaams Interuniversitair Instituut voor Biotechnologie, Vrije Universiteit Brussel, Sint-Genesius-Rode, B-1640, Belg.
SO Journal of Molecular Biology (2000), 299(4), 875-883
CODEN: JMOBAK; ISSN: 0022-2836
PB Academic Press
DT Journal
LA English
CC 6-3 (General Biochemistry)
Section cross-reference(s): 75
AB Binding of multivalent glycoconjugates by lectins often leads to the formation of crosslinked complexes. Type I crosslinks, which are one-dimensional, are formed by a divalent lectin and a divalent glycoconjugate. Type II crosslinks, which are two or three-dimensional, occur when a lectin or glycoconjugate has a valence greater than two. Type II complexes are a source of addnl. specificity, since homogeneous type II complexes are formed in the presence of mixts. of lectins and glycoconjugates. This addnl. specificity is thought to become important when a lectin interacts with clusters of glycoconjugates, e.g. as is present on the cell surface. The crystal structure of the Glc/Man binding legume lectin **FRIL** in complex with a trisaccharide provides a mol. snapshot of how weak protein-protein interactions, which are not obsd. in soln., can become important when a crosslinked complex is formed. In soln., **FRIL** is a divalent dimer, but in the crystal **FRIL** forms a tetramer, which allows for the formation of an intricate type II crosslinked complex with the divalent trisaccharide. The dependence on weak protein-protein interactions can ensure that a specific type II crosslinked complex and its assocd. specificity can occur only under stringent conditions, which explains why lectins are often found forming higher-order oligomers. (c) 2000 Academic Press.
ST crystal structure lectin **FRIL** multivalent carbohydrate binding
IT Molecular association
(**FRIL** forms a tetramer in the crystal, which allows for the formation of an intricate type II crosslinked complex with the divalent

trisaccharide)
IT **Agglutinins and Lectins**
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PROC (Process)
(complex with trisaccharide Man(.**alpha**.1-3)[Man(.**alpha**.1-6)]Man.**alpha**.1-O-Me; crystal structure of Glc/Man binding lectin **FRIL** from D. lablab seeds)
IT Crystal structure
(crystal structure of lectin **FRIL**)
IT Tetramers
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(in the crystal, **FRIL** forms a tetramer)
IT Conformation
(protein; crystal structure of lectin **FRIL**)
IT Quaternary structure
(protein; higher-order oligomers formed by **FRIL** lectin complexed with sugars)
IT 68601-74-1D, complex with lectin **FRIL**
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PROC (Process)
(crystal structure of lectin **FRIL** complex with the trisaccharide Man(.alpha.1-3)[Man(.alpha.1-6)]Man.alpha.1-O-Me)
RE.CNT 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD
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L37 ANSWER 2 OF 12 HCAPLUS COPYRIGHT 2003 ACS DUPLICATE 2
AN 2000:462086 HCAPLUS
DN 134:129021
TI The plant lectin **FRIL** supports prolonged in vitro maintenance of quiescent human cord blood CD34+CD38-/low/SCID repopulating stem cells
AU Kollet, O.; **Moore, J. G.**; Aviram, R.; Ben-Hur, H.; Liu, B. L.; Nagler, A.; Shultz, L.; Feldman, M.; Lapidot, T.
CS Department of Immunology, The Weizmann Institute of Science, Rehovot, Israel
SO Experimental Hematology (New York) (2000), 28(6), 726-736
CODEN: EXHMA6; ISSN: 0301-472X
PB Elsevier Science Inc.
DT Journal
LA English
CC 13-5 (Mammalian Biochemistry)
Section cross-reference(s): 2, 15
AB Ex vivo maintenance of human stem cells is crucial for many clin. applications. Current culture methods rely on optimized combinations of cytokines. Although these conditions provide some level of stem cell support, they primarily induce proliferation and differentiation, resulting in reduced repopulation capacity. The recently identified legume lectin **FRIL** has been shown to preserve human cord blood **progenitors** up to a month in suspension culture without medium changes. To test whether **FRIL** also preserves human SCID repopulating stem cells (SRC), we cultured human CD34+ cord blood cells in medium contg. **FRIL**, with or without subsequent exposure to cytokines, and tested their repopulating potential. We report that **FRIL** maintains SRC between 6 and 13 days in culture. Incubation of CD34+ cells with **FRIL** results in significantly lower nos. of cycling cells compared with cytokine-stimulated cells. CD34+ cells first cultured with **FRIL** for 6 days and subsequently exposed to cytokines for an addnl. 4 days generated significantly more mononuclear and **progenitor** cells and higher levels of engraftment in NOD/SCID mice compared with CD34+ cells cultured with **FRIL** alone. Similar results were obtained with CD34+CD38-/low cells, including expansion of SRC that were cultured in **FRIL** followed by cytokine stimulation. Moreover, CD34+ cells precultured with **FRIL** successfully engrafted primary and more importantly secondary recipients with lymphoid and myeloid cells, providing further support that **FRIL** maintains SRC for prolonged periods. **FRIL**'s ability to preserve quiescent primitive cells in a reversible manner may significantly expand the time and range of ex vivo manipulations of human stem cells for clin. applications.
ST lectin **FRIL** cord blood **hematopoietic** stem cell preservation; **hematopoietic** stem cell transplantation myeloid erythroid lymphoid differentiation **hematopoiesis**; interleukin SCF GCSF **FRIL hematopoietic** stem cell proliferation cycle
IT **Hematopoietic** precursor cell
(B-cell; plant lectin **FRIL** in preservation of repopulating capacity of quiescent human cord blood CD34+CD38-/low/SCID stem cells

in vitro by inhibiting their proliferation and differentiation)

IT **Agglutinins and Lectins**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(**FRIL** (**Flt3** receptor-interacting lectin); plant lectin **FRIL** in preservation of repopulating capacity of quiescent human cord blood CD34+CD38-/low/SCID stem cells in vitro by inhibiting their proliferation and differentiation)

IT Hemopoietins
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(**Flt**-3 ligand; plant lectin **FRIL** in preservation of repopulating capacity of quiescent human cord blood CD34+CD38-/low/SCID stem cells in vitro by inhibiting their proliferation and differentiation in relation to)

IT **Hematopoietic** precursor cell
(erythroid; plant lectin **FRIL** in preservation of repopulating capacity of quiescent human cord blood CD34+CD38-/low/SCID stem cells in vitro by inhibiting their proliferation and differentiation)

IT Transplant and Transplantation
(**hematopoietic** stem cell; plant lectin **FRIL** in preservation of repopulating capacity of quiescent human cord blood CD34+CD38-/low/SCID stem cells in vitro by inhibiting their proliferation and differentiation)

IT **Hematopoiesis**
(lymphopoiesis; plant lectin **FRIL** in preservation of repopulating capacity of quiescent human cord blood CD34+CD38-/low/SCID stem cells in vitro by inhibiting their proliferation and differentiation)

IT **Hematopoietic** precursor cell
(myeloid; plant lectin **FRIL** in preservation of repopulating capacity of quiescent human cord blood CD34+CD38-/low/SCID stem cells in vitro by inhibiting their proliferation and differentiation)

IT **Hematopoiesis**
(myelopoiesis; plant lectin **FRIL** in preservation of repopulating capacity of quiescent human cord blood CD34+CD38-/low/SCID stem cells in vitro by inhibiting their proliferation and differentiation)

IT Lymphocyte
(natural killer cell; plant lectin **FRIL** in preservation of repopulating capacity of quiescent human cord blood CD34+CD38-/low/SCID stem cells in vitro by inhibiting their proliferation and differentiation)

IT Cell differentiation
Cell proliferation
Cord blood
Erythropoiesis
Organ preservation
(plant lectin **FRIL** in preservation of repopulating capacity of quiescent human cord blood CD34+CD38-/low/SCID stem cells in vitro by inhibiting their proliferation and differentiation)

IT Cell cycle
(plant lectin **FRIL** in preservation of repopulating capacity of quiescent human cord blood CD34+CD38-/low/SCID stem cells in vitro by inhibiting their proliferation and differentiation in relation to)

IT Interleukin 3
Interleukin 6
Stem cell factor
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(plant lectin **FRIL** in preservation of repopulating capacity of quiescent human cord blood CD34+CD38-/low/SCID stem cells in vitro

by inhibiting their proliferation and differentiation in relation to)
IT **Hematopoietic** precursor cell
(stem; plant lectin **FRIL** in preservation of repopulating capacity of quiescent human cord blood CD34+CD38-/low/SCID stem cells in vitro by inhibiting their proliferation and differentiation)
IT 143011-72-7, Granulocyte colony-stimulating factor
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(plant lectin **FRIL** in preservation of repopulating capacity of quiescent human cord blood CD34+CD38-/low/SCID stem cells in vitro by inhibiting their proliferation and differentiation in relation to)
RE.CNT 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
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L37 ANSWER 3 OF 12 HCAPLUS COPYRIGHT 2003 ACS DUPLICATE 3
AN 1999:63475 HCAPLUS
DN 130:263695
TI cDNA cloning of **FRIL**, a lectin from Dolichos lablab, that preserves **hematopoietic progenitors** in suspension culture
AU **Colucci, Gabriella; Moore, Jeffrey G.**; Feldman, Michael; **Chrispeels, Maarten J.**
CS Department of Biology, University of California at San Diego, La Jolla, CA, 92093-0116, USA
SO Proceedings of the National Academy of Sciences of the United States of America (1999), 96(2), 646-650
CODEN: PNASA6; ISSN: 0027-8424
PB National Academy of Sciences
DT Journal
LA English
CC 6-3 (General Biochemistry)
Section cross-reference(s): 11, 13

AB Ex vivo culture of **hematopoietic** stem cells is limited by the inability of cytokines to maintain primitive cells without inducing proliferation, differentiation, and subsequent loss of repopulating capacity. We identified recently in exts. of kidney bean and hyacinth bean a mannose-binding lectin, called **FRIL**, and provide here evidence that this protein appears to satisfy properties of a stem cell preservation factor. **FRIL** was first identified based on its ability to stimulate NIH 3T3 cells transfected with **Flt3**, a tyrosine kinase receptor central to regulation of stem cells. Mol. characterization from polypeptide sequencing and identification of the cDNA of hyacinth bean **FRIL** shows 78% amino acid identity with a mannose-binding lectin of hyacinth beans. Treatment of primitive **hematopoietic progenitors** in suspension culture with purified hyacinth **FRIL** alone is able to preserve cells for 1 mo without medium changes. In vitro **progenitor** assays for human **hematopoietic** cells cultured 3 wk in **FRIL** displayed small blast-like colonies that were capable of serial replating and persisted even in the presence of cytokines known to induce differentiation. These results suggest that **FRIL** is capable of preserving primitive **progenitors** in suspension culture for prolonged periods. **FRIL**'s clin. utility involving procedures for stem cell transplantation, tumor cell purging before autologous transplantation, and ex vivo cultures used for expansion and stem cell gene therapy currently are being explored.

ST **hematopoietic** stem cell preservation suspension culture
FRIL lectin Dolichos; **FRIL** lectin cDNA sequence cloning
Dolichos; hyacinth bean **FRIL** lectin cDNA sequence cloning

IT **Agglutinins and Lectins**
RL: BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)
(**FRIL** (**Flt3** receptor-interacting lectin); cDNA cloning of **FRIL** lectin from Dolichos lablab that preserves **hematopoietic progenitors** in suspension culture)

IT Dolichos lablab
(cDNA cloning of **FRIL** lectin from Dolichos lablab that preserves **hematopoietic progenitors** in suspension culture)

IT Cord blood
(**hematopoietic progenitors** from; cDNA cloning of **FRIL** lectin from Dolichos lablab that preserves **hematopoietic progenitors** in suspension culture)

IT Animal tissue culture
(mammalian; cDNA cloning of **FRIL** lectin from Dolichos lablab that preserves **hematopoietic progenitors** in suspension culture)

IT Protein sequences
cDNA sequences
(of **FRIL** lectin from Dolichos lablab)

IT **Hematopoietic** precursor cell
(stem, **FRIL** lectin as preservation factor for; cDNA cloning of **FRIL** lectin from Dolichos lablab that preserves **hematopoietic progenitors** in suspension culture)

IT 221651-72-5
RL: BUU (Biological use, unclassified); PRP (Properties); BIOL (Biological study); USES (Uses)
(amino acid sequence; cDNA cloning of **FRIL** lectin from Dolichos lablab that preserves **hematopoietic progenitors** in suspension culture)

IT 221865-12-9
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(nucleotide sequence; cDNA cloning of **FRIL** lectin from Dolichos lablab that preserves **hematopoietic**

progenitors in suspension culture)

RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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L37 ANSWER 4 OF 12 HCAPLUS COPYRIGHT 2003 ACS

AN **2003:42377** HCAPLUS

DN **138:69503**

TI Dendritic cell isolation methods

IN **Moore, Jeffrey G.**

PA **Phylogix, Inc., USA**

SO PCT Int. Appl., 34 pp.
CODEN: PIXXD2

DT Patent

LA English

IC ICM C12N

CC 9-16 (Biochemical Methods)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003004616	A2	20030116	WO 2002-US21355	20020703

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRAI US 2001-303265P P 20010705

AB Disclosed are methods for isolating dendritic cells and/or dendritic **progenitor** cells. The methods include contacting a population of cells with a plurality of **FRIL** family member mols., and removing the unbound cells, wherein the cells bound to the **FRIL** family member mols. are an isolated population of dendritic cells and/or dendritic **progenitor** cells.

ST dendritic cell isolation

IT Antigens
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(CD 11c; dendritic cell isolation methods)

IT Animal
(Domesticated; dendritic cell isolation methods)

IT Molecules
(**FRIL**; dendritic cell isolation methods)
IT Mononuclear cell (leukocyte)
(Peripheral; dendritic cell isolation methods)
IT Plates
(Tissue culture; dendritic cell isolation methods)
IT Magnetic particles
(beads; dendritic cell isolation methods)
IT Animal cell
Animal tissue
Binders
Blood
Bone marrow
Dendritic cell
Human
Immobilization, molecular
Labels
Laboratory animal
Lymph node
Lymphatic system
Skin
Solids
Umbilical cord
(dendritic cell isolation methods)
IT Antibodies
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(dendritic cell isolation methods)
IT Gene
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(expression; dendritic cell isolation methods)
IT Embryo, animal
(fetus; dendritic cell isolation methods)
IT Liver
(hepatocyte; dendritic cell isolation methods)
IT Spleen
(splenocyte; dendritic cell isolation methods)
IT Cell
(stem, Dendritic; dendritic cell isolation methods)

L37 ANSWER 5 OF 12 HCAPLUS COPYRIGHT 2003 ACS
AN 2002:675864 HCAPLUS
DN 137:195623
TI Compositions and methods for protecting tissues and cells from damage, and for repairing damaged tissues
PA **Phylogix LLC, USA**
SO PCT Int. Appl., 50 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM A61K038-00
ICS C07K014-415; C07K014-42
CC 1-12 (Pharmacology)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2002067973	A1	20020906	WO 2002-US5763	20020227

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRAI US 2001-271666P P 20010227
US 2001-302716P P 20010703

AB The invention discloses methods and compns. for protecting cells and tissue from damage, particularly damage induced by a cytotoxic agent or a therapeutic treatment. The methods include contacting a **progenitor** cell with a member of the **FRIL** family of **progenitor** cell preservation factors. Also disclosed are methods for protecting normal cells and tissues in an animal from cytotoxicity induced by a therapeutic treatment, such as chemotherapy or radiotherapy. These methods include administering a **FRIL** family member mol. to the animal receiving the therapeutic treatment, wherein the normal cells and tissues of the animal administered the **FRIL** family member are protected from the therapeutic treatment's cytotoxicity. Also disclosed are methods for isolating a cell for repairing a tissue. The methods include contacting a population of cells with a **FRIL** family member mol. and isolating a cell specifically bound by the **FRIL** family member mol., wherein the cell bound to the **FRIL** family member mol. is useful for repairing a tissue.

ST cytotoxic agent tissue damage **FRIL** family member mol cytoprotection

IT **Agglutinins and Lectins**
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**FRIL** family member mol.; compns. for protecting tissues and cells from damage, and for repairing damaged tissues)

IT Proteins
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**FRIL** family; compns. for protecting tissues and cells from damage, and for repairing damaged tissues)

IT Intestine, disease
(colitis; compns. for protecting tissues and cells from damage, and for repairing damaged tissues)

IT Animal
Animal tissue
Antitumor agents
Blood
Bone marrow
Cell cycle
Chemotherapy
Cord blood
Cytoprotective agents
Cytotoxic agents
Cytotoxicity
Drug delivery systems
Hematopoietic precursor cell
Human
Liver
Neoplasm
Radiopharmaceuticals
Radiotherapy
(compns. for protecting tissues and cells from damage, and for repairing damaged tissues)

IT CD34 (antigen)
Cytokines
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(compns. for protecting tissues and cells from damage, and for repairing damaged tissues)

IT Embryo, animal
(fetus; compns. for protecting tissues and cells from damage, and for

repairing damaged tissues)
IT Liver, disease
(injury; compns. for protecting tissues and cells from damage, and for repairing damaged tissues)
IT Mononuclear cell (leukocyte)
(peripheral blood; compns. for protecting tissues and cells from damage, and for repairing damaged tissues)
IT Cell
(stem, mesenchymal, hair follicle, skin, liver and gastrointestinal; compns. for protecting tissues and cells from damage, and for repairing damaged tissues)
IT 56-23-5, Carbon tetrachloride, biological studies 9042-14-2, Dextran sulfate
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)
(compns. for protecting tissues and cells from damage, and for repairing damaged tissues)
IT 50-18-0, Cyclophosphamide **51-21-8, 5-Fluorouracil 147-94-4, Cytarabine** 15663-27-1, Cisplatin 20830-81-3, Daunorubicin **23214-92-8, Doxorubicin** 33069-62-4, Paclitaxel
RL: ADV (Adverse effect, including toxicity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(compns. for protecting tissues and cells from damage, and for repairing damaged tissues)
RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Colucci; Proc Natl Acad Sci 1999, V96, P646 HCAPLUS
(2) Imclone Systems Incorporated; WO 9859038 A1 1998 HCAPLUS

L37 ANSWER 6 OF 12 HCAPLUS COPYRIGHT 2003 ACS
AN 2001:507851 HCAPLUS
DN 135:117945
TI Cloning and use of the **FRIL** family of **progenitor** cell preservation factors
IN **Colucci, M. Gabriella; Chrispeels, Maarten J.; Moore, Jeffrey G.**
PA **Phylogix LLC, USA**
SO PCT Int. Appl., 172 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C12N015-29
ICS C12N005-06; C07K014-42; G01N033-566; A61K038-16; A61P039-00
CC 3-3 (Biochemical Genetics)
Section cross-reference(s): 6, 11, 15
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001049851	A1	20010712	WO 1999-US31307	19991230
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	EP 1246919	A1	20021009	EP 1999-967798	19991230
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				

PRAI WO 1999-US31307 W 19991230
AB Disclosed is the nucleic acids encoding three members of **FRIL**

family, which are mannose-binding lectins, of **progenitor** cell preservation factors, including **D1FRIL**, Pv-**FRIL** and **YamFRIL**. **FRIL** family members preserve **progenitor** cells both in vivo and ex vivo. **FRIL** family members find use as therapeutics for alleviating and/or reducing the **hematopoietic progenitor** cell-depleting activity of many cancer therapeutics. Recombinant D1-**FRIL** specifically stimulates proliferation of 3T3 cells expressing the **FLT3** receptor and preserves mononuclear cells and **progenitors** expressing CD34. D1-**FRIL** maintains the expansion capacity of CD34+ **progenitors** up to two weeks and SCID repopulating stem cells (SRC) in ex vivo culture, and maintains high levels of CD34+ cells in G0/G1 phase of cell cycle. D1-**FRIL** preserves SRC potential of multilineage differentiation and protects CB MNC from the toxicity of chemotherapy drugs. D1-**FRIL**-coated beads can be used to isolate **progenitor** cells, CD34-primitive stem cells and normal stem cells, dendritic **progenitors** and mature cells, endothelial stem cells and **progenitors**.

ST sequence cDNA mannose binding lectin **FRIL**; **progenitor** cell preservation **FRIL**; drug **hematopoietic progenitor** cancer **FRIL**; stem cell **progenitor** isolation **FRIL**

IT Vascular endothelial growth factor receptors
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(1; cloning and use of the **FRIL** family of **progenitor** cell preservation factors)

IT **Hematopoietin** receptors
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(**FLT3** receptors; cloning and use of the **FRIL** family of **progenitor** cell preservation factors)

IT Integrins
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(antigens CD11b; cloning and use of the **FRIL** family of **progenitor** cell preservation factors)

IT Integrins
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(antigens CD11c; cloning and use of the **FRIL** family of **progenitor** cell preservation factors)

IT Bone marrow
(cells of; cloning and use of the **FRIL** family of **progenitor** cell preservation factors)

IT Bean (Phaseolus vulgaris)
Blood
Chemotherapy
Cord blood
Dolichos lablab
Hematopoietic precursor cell
Legume (Fabaceae)
Mouse
Neoplasm
Pea
Protein sequences
Radiotherapy
Sphenostylis stenocarpa
Tobacco
Transplant and Transplantation
cDNA sequences
(cloning and use of the **FRIL** family of **progenitor** cell preservation factors)

IT Fusion proteins (chimeric proteins)
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cloning and use of the **FRIL** family of **progenitor** cell preservation factors)

IT **Agglutinins and Lectins**
Cytokines
c-Kit (protein)
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(cloning and use of the **FRIL** family of **progenitor** cell preservation factors)

IT Toxicity
(drug; cloning and use of the **FRIL** family of **progenitor** cell preservation factors)

IT **Hematopoietic** precursor cell
(erythroid; cloning and use of the **FRIL** family of **progenitor** cell preservation factors)

IT Cytometry
(flow, cells sorted by; cloning and use of the **FRIL** family of **progenitor** cell preservation factors)

IT Vascular endothelial growth factor receptors
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(gene **flt** 1; cloning and use of the **FRIL** family of **progenitor** cell preservation factors)

IT Vascular endothelial growth factor receptors
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(gene **flt** 4, 2; cloning and use of the **FRIL** family of **progenitor** cell preservation factors)

IT Protein motifs
(glycosylated extracellular domain of an **FLT3** receptor; cloning and use of the **FRIL** family of **progenitor** cell preservation factors)

IT Blood vessel
(hemangioblast; cloning and use of the **FRIL** family of **progenitor** cell preservation factors)

IT Liver
(hepatocyte, fetal; cloning and use of the **FRIL** family of **progenitor** cell preservation factors)

IT **Agglutinins and Lectins**
RL: BAC (Biological activity or effector, except adverse); BPN (Biosynthetic preparation); BSU (Biological study, unclassified); BUU (Biological use, unclassified); PRP (Properties); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**mannose-binding**, D1-**FRIL**, Pv-**FRIL** and **YamFRIL**; cloning and use of the **FRIL** family of **progenitor** cell preservation factors)

IT **Hematopoietic** precursor cell
(myeloid; cloning and use of the **FRIL** family of **progenitor** cell preservation factors)

IT Immobilization, biochemical
(protein, on a solid support; cloning and use of the **FRIL** family of **progenitor** cell preservation factors)

IT Mutagenesis
(site-directed, deletion; cloning and use of the **FRIL** family of **progenitor** cell preservation factors)

IT Mutagenesis
(site-directed, insertion; cloning and use of the **FRIL** family of **progenitor** cell preservation factors)

IT Mutagenesis
(site-directed, substitution; cloning and use of the **FRIL** family of **progenitor** cell preservation factors)
IT Embryo, animal
(stem cell, bone, hepatic, endothelial, brain and dendritic; cloning and use of the **FRIL** family of **progenitor** cell preservation factors)
IT Cell
(stem, messanchymal; cloning and use of the **FRIL** family of **progenitor** cell preservation factors)
IT Magnetic materials
(used in sepn. of unbound cells; cloning and use of the **FRIL** family of **progenitor** cell preservation factors)
IT 350516-23-3P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(amino acid sequence; cloning and use of the **FRIL** family of **progenitor** cell preservation factors)
IT 350516-19-7P 350591-55-8P
RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified); PRP (Properties); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(amino acid sequence; cloning and use of the **FRIL** family of **progenitor** cell preservation factors)
IT 350516-21-1P
RL: PRP (Properties); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(amino acid sequence; cloning and use of the **FRIL** family of **progenitor** cell preservation factors)
IT **51-21-8, 5-Fluorouracil 147-94-4, cytarabine 23214-92-8, Doxorubicin**
RL: ADV (Adverse effect, including toxicity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cloning and use of the **FRIL** family of **progenitor** cell preservation factors)
IT 340830-03-7, receptor tyrosine kinase
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(cloning and use of the **FRIL** family of **progenitor** cell preservation factors)
IT 350516-22-2P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(nucleotide sequence; cloning and use of the **FRIL** family of **progenitor** cell preservation factors)
IT 350516-18-6P
RL: BPN (Biosynthetic preparation); BUU (Biological use, unclassified); PRP (Properties); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(nucleotide sequence; cloning and use of the **FRIL** family of **progenitor** cell preservation factors)
IT 350516-20-0P
RL: PRP (Properties); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(nucleotide sequence; cloning and use of the **FRIL** family of **progenitor** cell preservation factors)
IT 219481-41-1 246256-01-9 350545-15-2 350545-16-3 350545-17-4
350545-18-5 350545-19-6 350545-20-9 350545-21-0 350545-22-1
350545-24-3 350545-25-4 350545-26-5 350545-27-6 350545-28-7
350545-29-8 350545-30-1 350545-31-2 350545-32-3 350545-33-4
350545-34-5 350545-35-6 350545-36-7 350545-37-8 350545-38-9

350545-39-0 350545-40-3 350545-41-4 350545-48-1 350545-49-2
RL: PRP (Properties)
(unclaimed nucleotide sequence; cloning and use of the **FRIL** family of **progenitor** cell preservation factors)
IT 157391-24-7 350545-23-2 350545-42-5 350545-43-6 350545-44-7
350545-45-8 350545-46-9 350545-47-0
RL: PRP (Properties)
(unclaimed protein sequence; cloning and use of the **FRIL** family of **progenitor** cell preservation factors)
IT 350493-68-4 350493-69-5 350493-70-8 350493-71-9 350493-72-0
350493-73-1 350493-74-2 350493-75-3
RL: PRP (Properties)
(unclaimed sequence; cloning and use of the **FRIL** family of **progenitor** cell preservation factors)
RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Amcell Corp; WO 9741224 A 1997 HCAPLUS
(2) Colucci, G; PROC NATL ACAD SCI USA 1999, V96, P646 HCAPLUS
(3) Gowda, L; J BIOL CHEM 1994, V269(29), P18789 HCAPLUS
(4) Imclone Systems Inc; WO 9825457 A 1998 HCAPLUS
(5) Imclone Systems Inc; WO 9859038 A 1998 HCAPLUS
(6) Kemshead, J; INTERNATIONAL CONFERENCE ON METERING APPARATUS AND TARIFFS FOR ELECTRICITY SUPPLY 1992, V1(1), P35 MEDLINE
(7) Lenfant, M; PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF USA 1989, V86, P779 HCAPLUS
(8) Moore, J; BLOOD, 39th annual meeting of the American Society of Hematology 1997, V90, P428A

L37 ANSWER 7 OF 12 HCAPLUS COPYRIGHT 2003 ACS
AN 1999:27928 HCAPLUS
DN 130:91277
TI Nucleic acid encoding a lectin-derived **progenitor** cell preservation factor
IN **Colucci, M. Gabriella; Chrispeels, Maarten J.; Moore, Jeffrey G.**
PA Imclone Systems Incorporated, USA; Regents of the University of California
SO PCT Int. Appl., 72 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C12N005-00
ICS C12N015-00
CC 3-3 (Biochemical Genetics)
Section cross-reference(s): 6, 9, 11, 63
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9859038	A1	19981230	WO 1998-US13046	19980623
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	US 6310195	B1	20011030	US 1997-881189	19970624
	AU 9881626	A1	19990104	AU 1998-81626	19980623
	EP 1017789	A1	20000712	EP 1998-931514	19980623
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2002507120	T2	20020305	JP 1999-504986	19980623
PRAI	US 1997-881189	A	19970624		

WO 1998-US13046 W 19980623

AB The invention relates to a nucleic acid mol. isolated from hyacinth bean (Dolichos lab lab) that encodes a protein that is effective in the preservation of **progenitor** cells, such as **hematopoietic progenitor** cells. The encoded protein (designated **FRIL**) is a mannose-glucose-specific lectin that contains an amino acid sequence TNNVLQVT. Methods of using the encoded protein for preserving **progenitor** cells in vitro, ex vivo, and in vivo are also described. The invention, therefore, includes methods such as myeloablation therapies for cancer treatment wherein myeloid reconstitution is facilitated by means of the specified protein. Other therapeutic utilities are also enabled through the invention, for example, expanding **progenitor** cell populations ex vivo to increase chances of engraftation, improving conditions for transporting and storing **progenitor** cells, and facilitating gene therapy to treat and cure a broad range of life-threatening hematol. diseases.

ST lectin **FRIL** cDNA sequence hyacinth bean; Dolichos lectin **FRIL** cDNA sequence; **progenitor** cell preservation lectin **FRIL**

IT **Hematopoietin** receptors
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**FLT3** receptors, **progenitor** cells expressing; nucleic acid encoding a lectin-derived **progenitor** cell preservation factor)

IT **Agglutinins and Lectins**
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**FRIL**; nucleic acid encoding a lectin-derived **progenitor** cell preservation factor)

IT Antigens
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(Sca, **progenitor** cells expressing; nucleic acid encoding a lectin-derived **progenitor** cell preservation factor)

IT cDNA sequences
(for lectin **FRIL** from hyacinth bean effective in **progenitor** cell preservation)

IT Blood transfusion
Dolichos lablab
Gene therapy
Hematopoietic precursor cell
Kidney bean
Legume (Fabaceae)
Molecular cloning
Preservation
Vigna unguiculata unguiculata
(nucleic acid encoding a lectin-derived **progenitor** cell preservation factor)

IT Protein sequences
(of lectin **FRIL** from hyacinth bean effective in **progenitor** cell preservation)

IT Digestive tract
Kidney
Muscle
Nerve
Pancreas
Skin
Thymus gland
(**progenitor** cell for; nucleic acid encoding a lectin-derived **progenitor** cell preservation factor)

IT CD34 (antigen)
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**progenitor** cells expressing; nucleic acid encoding a lectin-derived **progenitor** cell preservation factor)

IT Cytotoxic agents
(proliferating cells removal by; nucleic acid encoding a lectin-derived **progenitor** cell preservation factor)
IT Embryo, animal
(stem cell; nucleic acid encoding a lectin-derived **progenitor** cell preservation factor)
IT Cytokines
Interleukin 1
Interleukin 11
Interleukin 3
Interleukin 6
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(viability improver; nucleic acid encoding a lectin-derived **progenitor** cell preservation factor)
IT Bean (Phaseolus vulgaris)
(white kidney; nucleic acid encoding a lectin-derived **progenitor** cell preservation factor)
IT 219481-49-9, Lectin **FRIL** (Dolichos lablab precursor)
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(amino acid sequence; nucleic acid encoding a lectin-derived **progenitor** cell preservation factor)
IT 50-18-0, Cyclophosphamide **51-21-8, 5-Fluorouracil** 1605-68-1, Taxane 15663-27-1, Cisplatin **25316-40-9, Adriamycin** 33069-62-4, Taxol
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(cytotoxic agent for proliferating cells removal; nucleic acid encoding a lectin-derived **progenitor** cell preservation factor)
IT 219126-88-2D, lectin **FRIL** contg.
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(nucleic acid encoding a lectin-derived **progenitor** cell preservation factor)
IT 219481-41-1
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(nucleotide sequence; nucleic acid encoding a lectin-derived **progenitor** cell preservation factor)
IT 147230-71-5, **FLT3**/FLK2 receptor tyrosine kinase
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**progenitor** cells expressing; nucleic acid encoding a lectin-derived **progenitor** cell preservation factor)
RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Arar; The Journal of Biochemistry and Molecular Biology 1995, V270(8), P3551 HCAPLUS
(2) Gatehouse; US 5545820 A 1996 HCAPLUS
(3) Stubbs; Journal of Biological Chemistry 1986, V261(14), P6141 HCAPLUS
(4) van Damme; Plant Molecular Biology 1997, V33(3), P523 HCAPLUS
(5) van Eijsden; Plant Molecular Biology 1992, V20, P1049 HCAPLUS

L37 ANSWER 8 OF 12 HCAPLUS COPYRIGHT 2003 ACS
AN **1990:435449** HCAPLUS
DN **113:35449**
TI Bioassay of hormones and other ecell-modifying substances
IN Marshall, Nicholas J.; Ealey, Patricia A.; Holt, Stanley J.
PA University College, London, UK
SO PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C12Q001-02
ICS G01N033-74; C12Q001-32

CC 2-1 (Mammalian Hormones)
Section cross-reference(s): 15
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9000619	A1	19900125	WO 1989-GB775	19890707
	W: FI, JP, US				
	RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
	EP 423206	A1	19910424	EP 1989-908237	19890707
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
	JP 03505669	T2	19911212	JP 1989-507882	19890707
PRAI	GB 1988-16302		19880708		
	GB 1988-18508		19880804		
	WO 1989-GB775		19890707		

AB A bioassay for extracellular cell modifiers, e.g. hormones or autoantibodies that mimic their effects, comprises adding the modifier to a culture of cells contg. a cellular component the activity or quantity of which is sensitive to the modifier, than measuring the change in the cellular component by use of an appropriate calorimetric or chromogenic reagent. The assay is conveniently operated in microtiter-plate wells. The method of the invention was used to det. TSH. In a 4-h incubation with **FRIL**-5 cells, using MTT staining for dehydrogenase activity as a measure of cellular enzyme activation, the detection limit for TSH was <0.5 milliunits/L. The same bioassay system was used to det. long-acting thyroid stimulator B (international ref. std. for thyroid-stimulating antibodies). Test kits using the method of the invention are described.

ST hormone bioassay; autoantibody bioassay; antibody auto bioassay; TSH bioassay FRTL5 cell MTT; thyroid stimulator B bioassay

IT Hormones
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, bioassay for)

IT Enzymes
Lipids, analysis
Nucleic acids
Proteins, analysis
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, in bioassay for hormones and other extracellular cell modifiers)

IT Dyes
Fluorescent substances
Luminescent substances
(in bioassay for hormones and other extracellular cell modifiers)

IT Animal cell line
(FRTL-5, bioassay for hormones and other extracellular cell modifiers using)

IT Animal cell line
(Nb 2 node, bioassay for hormones and other extracellular cell modifiers using)

IT Named reagents and solutions
RL: BIOL (Biological study)
(Schiff's, in bioassay for hormones and other extracellular cell modifiers)

IT Antibodies
RL: ANT (Analyte); ANST (Analytical study)
(auto-, detn. of, bioassay for)

IT Dyes
(color formers, in bioassay for hormones and other extracellular cell modifiers)

IT Spectrochemical analysis
(colorimetric, in bioassay for hormones and other extracellular cell modifiers)

IT Spectrochemical analysis

(spectrophotometric, in bioassay for hormones and other extracellular cell modifiers)

IT Onium compounds
RL: BIOL (Biological study)
(tetrazolium, salts, dehydrogenase detn. with, in bioassay for hormones and other extracellular cell modifiers)

IT 9034-48-4
RL: BIOL (Biological study)
(B, detn. of, bioassay for)

IT 553-24-2, Neutral red 633-96-5, Orange II 54327-10-5, Methyl green
RL: BIOL (Biological study)
(cell component detection with, in bioassay for hormones and other extracellular cell modifiers)

IT 298-93-1, 3-(4,5-Dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide
RL: BIOL (Biological study)
(dehydrogenase detn. with, in bioassay for hormones and other extracellular cell modifiers)

IT 9002-60-2, Corticotropin, analysis 9002-61-3, Chorionic gonadotrophin 9002-62-4, Prolactin, biological studies 9002-64-6, Parathyroid hormone 9002-67-9, Luteinizing hormone 9002-71-5, Thyroid-stimulating hormone 9002-72-6, Growth hormone 61912-98-9, Insulin-like growth factor
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, bioassay for)

IT 9000-83-3, ATPase 9001-77-8, Acid phosphatase 9001-78-9 9003-99-0, Peroxidase 9013-79-0, Esterase 9035-82-9, Dehydrogenase
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, in bioassay for hormones and other extracellular cell modifiers)

IT 66575-29-9, Forskolin
RL: BIOL (Biological study)
(in TSH bioassay)

IT 70-34-8, Dinitrofluorobenzene 82-94-0, Light green 846-70-8, Naphthol Yellow S 78642-64-5, Coomassie blue
RL: BIOL (Biological study)
(in bioassay for hormones and other extracellular cell modifiers)

L37 ANSWER 9 OF 12 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1998:68208 BIOSIS
DN PREV199800068208
TI Preservation of hematopoietic progenitors for prolonged periods in suspension cultures by Flk2/flt3 receptor-interacting **lectin** (**FRIL**), a new **lectin** identified in red kidney beans.
AU **Moore, J. G. (1)**; Hata, Y. S.; **Chrispeels, M. J.**; Witte, L. D.; Feldman, M.
CS (1) ImClone Systems Incorporated, New York, NY USA
SO Blood, (Nov. 15, 1997) Vol. 90, No. 10 SUPPL. 1 PART 1, pp. 428A. Meeting Info.: 39th Annual Meeting of the American Society of Hematology San Diego, California, USA December 5-9, 1997 The American Society of Hematology
. ISSN: 0006-4971.
DT Conference
LA English
CC Blood, Blood-Forming Organs and Body Fluids - General; Methods *15001
Cytology and Cytochemistry - Human *02508
Biophysics - General Biophysical Techniques *10504
Biophysics - Molecular Properties and Macromolecules *10506
Blood, Blood-Forming Organs and Body Fluids - Blood Cell Studies *15004
In Vitro Studies, Cellular and Subcellular *32600
Plant Physiology, Biochemistry and Biophysics - Chemical Constituents *51522
General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals *00520
Biochemical Studies - Proteins, Peptides and Amino Acids *10064

BC Leguminosae 26260
Hominidae 86215
Muridae 86375
IT Major Concepts
Biochemistry and Molecular Biophysics; Blood and Lymphatics (Transport and Circulation); Methods and Techniques
IT Parts, Structures, & Systems of Organisms
hematopoietic progenitor cells: blood and lymphatics, preservation; CD34-positive cells: blood and lymphatics, immune system
IT Chemicals & Biochemicals
phytohemagglutinin-stimulated leukocyte-conditioned medium; Flk2/flt3 receptor-interacting **lectin** [**FRIL**]: alpha-2-beta-2 heterodimer
IT Methods & Equipment
suspension culture: culture method, preservation method
IT Miscellaneous Descriptors
Meeting Abstract
ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia; Leguminosae: Dicotyledones, Angiospermae, Spermatophyta, Plantae; Muridae: Rodentia, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
human (Hominidae); Dolichos-lab [red kidney bean] (Leguminosae); 3T3 (Muridae)
ORGN Organism Superterms
Angiosperms; Animals; Chordates; Dicots; Humans; Mammals; Nonhuman Mammals; Nonhuman Vertebrates; Plants; Primates; Rodents; Spermatophytes; Vascular Plants; Vertebrates

L37 ANSWER 10 OF 12 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1998:67936 BIOSIS
DN PREV199800067936
TI Prolonged in vitro maintenance of quiescent human CD34+/CD38- stem cells from cord blood by FLT-3 receptor interacting **lectin** (**FRIL**.
AU Kollet, O. (1); **Moore, J.**; Fajerman, I.; Ben-Hur, H.; Hagay, Z.; Nagler, A.; Feldman, M.; Lapidot, T.
CS (1) Dep. Immunol., Weizmann Inst. Sci., Jerusalem Israel
SO Blood, (Nov. 15, 1997) Vol. 90, No. 10 SUPPL. 1 PART 1, pp. 365A. Meeting Info.: 39th Annual Meeting of the American Society of Hematology San Diego, California, USA December 5-9, 1997 The American Society of Hematology
. ISSN: 0006-4971.
DT Conference
LA English
CC Blood, Blood-Forming Organs and Body Fluids - Lymphatic Tissue and Reticuloendothelial System *15008
Cytology and Cytochemistry - Human *02508
Tissue Culture, Apparatus, Methods and Media *32500
In Vitro Studies, Cellular and Subcellular *32600
General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals *00520
Biochemical Studies - Proteins, Peptides and Amino Acids *10064
BC Hominidae 86215
IT Major Concepts
Blood and Lymphatics; Cell Biology
IT Parts, Structures, & Systems of Organisms
cord blood: blood and lymphatics; quiescent CD34+/CD38+ stem cells: blood and lymphatics, prolonged in vitro maintenance
IT Chemicals & Biochemicals
GLT-3 receptor interacting **lectin**
IT Miscellaneous Descriptors
Meeting Abstract; Meeting Poster

ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
human (Hominidae)
ORGN Organism Superterms
Animals; Chordates; Humans; Mammals; Primates; Vertebrates

L37 ANSWER 11 OF 12 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1998:61358 BIOSIS
DN PREV199800061358
TI Purification and characterization of the carbohydrate binding properties of the Flk2/flt3 interacting **lectin** (**FRIL**.
AU Mo, Hanqing; Goldstein, Irwin J.; **Moore, Jeffrey G.**
CS Dep. Biological Chemistry, Univ. Mich., Ann Arbor, MI 48109 USA
SO Blood, (Nov. 15, 1997) Vol. 90, No. 10 SUPPL. 1 PART 2, pp. 180B. Meeting Info.: Thirty-ninth Annual Meeting of the American Society of Hematology San Diego, California, USA December 5-9, 1997 The American Society of Hematology
. ISSN: 0006-4971.
DT Conference
LA English
CC Biochemical Studies - General *10060
General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals *00520
IT Major Concepts
Biochemistry and Molecular Biophysics
IT Chemicals & Biochemicals
Flk2/flt interacting **lectin**: carbohydrate binding properties, characterization, purification
IT Miscellaneous Descriptors
Meeting Abstract

L37 ANSWER 12 OF 12 MEDLINE
AN **2000450107** MEDLINE
DN **20374589** PubMed ID: **10913819**
TI A new lectin in red kidney beans called PvFRIL stimulates proliferation of NIH 3T3 cells expressing the Flt3 receptor.
AU **Moore J G**; Fuchs C A; Hata Y S; Hicklin D J; **Colucci G**
; **Chrispeels M J**; Feldman M
CS ImClone Systems Incorprated, New York, New York 10014, USA..
jmoore@phylogix.com
SO BIOCHIMICA ET BIOPHYSICA ACTA, (2000 Jul 26) 1475 (3) 216-24.
Journal code: 0217513. ISSN: 0006-3002.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200011
ED Entered STN: 20010322
Last Updated on STN: 20021218
Entered Medline: 20001103
AB A new legume lectin has been identified by its ability to specifically stimulate proliferation of NIH 3T3 fibroblasts expressing the Flt3 tyrosine kinase receptor. The lectin was isolated from conditioned medium harvested from human peripheral blood mononuclear cells activated to secrete cytokines by a crude red kidney bean extract containing phytohemagglutinin (PHA). Untransfected 3T3 cells and 3T3 cells transfected with the related Fms tyrosine kinase receptor do not respond to this lectin, which we called PvFRIL (Phaseolus vulgaris Flt3 receptor-interacting lectin). When tested on cord blood mononuclear cells enriched for Flt3-expressing progenitors, purified PvFRIL fractions maintained a small population of cells that continued to express CD34 after 2 weeks in suspension cultures containing IL3. These cultures did

not show the effects of IL3's strong induction of proliferation and differentiation (high cell number and exhausted medium); instead, low cell number at the end of the culture period resulted in persistence of cells in the context of cell death. These observations led to the hypothesis that PvFRIL acts in a dominant manner to preserve progenitor viability and prevent proliferation and differentiation.

CT Check Tags: Animal; Comparative Study; Human; Support, U.S. Gov't, Non-P.H.S.
3T3 Cells: CY, cytology
*3T3 Cells: DE, drug effects
3T3 Cells: ME, metabolism
Antigens, CD34: AN, analysis
Cell Differentiation
Cell Division
Cell Survival
Culture Media, Conditioned
*Fabaceae: CH, chemistry
Fetal Blood
Interleukin-3: AI, antagonists & inhibitors
Iodine Radioisotopes
Lectins: GE, genetics
Lectins: IP, isolation & purification
*Lectins: PD, pharmacology
Macrophage Colony-Stimulating Factor
Mice
Monocytes: DE, drug effects
Monocytes: IM, immunology
Plant Lectins
*Plants, Medicinal
Protein Binding
Protein Sorting Signals
Seeds: CH, chemistry
Transfection

RN 81627-83-0 (Macrophage Colony-Stimulating Factor)

CN 0 (Antigens, CD34); 0 (Culture Media, Conditioned); 0 (**FRIL** protein, Dolichos lablab); 0 (Interleukin-3); 0 (Iodine Radioisotopes); 0 (Lectins); 0 (Plant Lectins); 0 (Protein Sorting Signals)

=> fil wpix
FILE 'WPIX' ENTERED AT 12:09:31 ON 31 JAN 2003
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FILE LAST UPDATED: 29 JAN 2003 <20030129/UP>
MOST RECENT DERWENT UPDATE: 200307 <200307/DW>
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=> d all abeq tech abex tot

L39 ANSWER 1 OF 2 WPIX (C) 2003 THOMSON DERWENT
AN 2002-691638 [74] WPIX
DNC C2002-195485
TI Protection of progenitor cell in patient having cancer against cytotoxic agent involves contacting the progenitor cell with a **FRIL** family member molecule.
DC B04
PA (PHYL-N) PHYLOGIX LLC
CYC 95
PI WO 2002067973 A1 20020906 (200274)* EN 50p A61K038-00
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
ADT WO 2002067973 A1 WO 2002-US5763 20020227
PRAI US 2001-302716P 20010703; US 2001-271666P 20010227
IC ICM A61K038-00
ICS C07K014-415; C07K014-42
AB WO 200267973 A UPAB: 20021118
NOVELTY - Protection of progenitor cell against a cytotoxic agent involves contacting the progenitor cell with a **FRIL** family member molecule and the cytotoxic agent.
DETAILED DESCRIPTION - An INDEPENDENT for isolating a cell for repairing a tissue involving of cells with a **FRIL** family member molecule and specifically bound by the **FRIL** family me
ACTIVITY - Cytostatic; vulnerary.
MECHANISM OF ACTION - Progenitor cel
USE - For protecting progenitor cell animal (preferably human having cancer) from cytotoxicity of cytotoxic agent; for protection against progenitor cell-depleting activity in a therapeutic treatment; and for isolating cell useful for repairing a tissue (all claimed).
ADVANTAGE - The treatment is non-toxic and inexpensive in protecting normal cells and tissues against tissue damage due to the adverse effects of chemotherapeutic and/or radiotherapeutic drugs, including cachexia.
Dwg.0/4
FS CPI
FA AB; DCN
MC CPI: B02-D; B04-B03A; B04-F02; B04-F04; B04-N06; B05-A03B; B05-B01J; B05-C03; B05-C07; B06-A03; B07-D12; B12-M01A; B12-M01B; B12-M03; B12-M07; B12-M11; B14-E10; B14-F02; B14-H01; B14-M01; B14-N01; B14-N12; B14-N17; B14-R02
TECH UPTX: 20021118
TECHNOLOGY FOCUS - BIOLOGY - Preferred Cell: The progenitor cell is in a tissue. The progenitor cell is a hematopoietic progenitor cell, messenchymal progenitor cell, hematopoietic stem cell, hair follicle progenitor cell, skin progenitor cell, liver progenitor cell, or a gastrointestinal progenitor cell. The population of cells includes the progenitor cell. The population of the cells is selected from whole blood,

umbilical cord blood, fetal liver cells or bone marrow cells. The **FRIL** family member molecule is purified. Preferred Agent: The cytotoxic agent is chemotherapeutic or radiotherapeutic. The chemotherapeutic is cytarabine, doxorubicin, cisplatin, daunorubicin, paclitaxel, cyclophosphamide, or 5-fluorouracil.

ABEX

WIDER DISCLOSURE - The compositions comprising at least one member of the FRIL family of progenitor cell preservation factors are also disclosed. EXAMPLE - To determine the ability of a FRIL family protein to protect progenitor cells from the toxicity of chemotherapy drugs, cord blood mononuclear cells (CB mnc) were collected as previously described. CB mnc were then cultured in ninety-six well tissue culture plates at a concentration of 200,000 cells/ml in serum-defined medium (0.1 ml). Thus, there were 20,000 cells total per well. D1-FRIL (the FRIL family member) was purified according to U.S. Patent No.6084060. D1-FRIL was added at a concentration of 10 or 100 ng/ml, together with cytarabine (Ara-C), doxorubicin (Dox), cisplatin, or 5-fluorouracil (5-FU) over a 5-log dose range. Cultures were incubated in humidified chambers without medium changes for up to 29 days. Viable cells were determined after 5 days of culture by XTT (2,3-bis(methoxy-4-nitro-5-sulfophenyl)-2H-tetrazolium-5-carboxanilide inner salt) which is a tetraformazan salt cleaved by actively respiring cells. Proliferation and cell survival was quantitated spectrophotometrically using a Vmax kinetic plate reader and recorded as either relative activity (units/ml) or as a specific activity (units/mg). Graphical analysis showed that cultures D1-FRIL (either at 10 ng/ml) showed a decrease susceptibility to cytarabine (Ara-C), cisplatin or doxorubicin (Dox) by 10- - 10000-fold. It was also observed that the presence of FRIL in the 5-FU cultures increased cell viability over a large dose range.

L39 ANSWER 2 OF 2 WPIX (C) 2003 THOMSON DERWENT
AN 2001-441882 [47] WPIX
DNN N2001-326818 DNC C2001-133620
TI Legume Progenitor cell preservation factors for in vivo or ex vivo preservation of hematopoietic progenitor cells and as therapeutics for alleviating/reducing progenitor cell-depleting activity of cancer therapeutics.
DC B04 D16 S03
IN CHRISPEELS, M J; COLUCCI, M G; MOORE, J G
PA (PHYL-N) PHYLOGIX LLC
CYC 87
PI WO 2001049851 A1 20010712 (200147)* EN 172p C12N015-29
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZA ZW
AU 2000024014 A 20010716 (200169) C12N015-29
EP 1246919 A1 20021009 (200267) EN C12N015-29
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
ADT WO 2001049851 A1 WO 1999-US31307 19991230; AU 2000024014 A WO 1999-US31307 19991230, AU 2000-24014 19991230; EP 1246919 A1 EP 1999-967798 19991230, WO 1999-US31307 19991230
FDT AU 2000024014 A Based on WO 200149851; EP 1246919 A1 Based on WO 200149851
PRAI WO 1999-US31307 19991230
IC ICM C12N015-29
ICS A61K038-16; A61P039-00; C07K014-42; C12N005-06; G01N033-566
AB WO 200149851 A UPAB: 20010822
NOVELTY - An essentially pure composition (I) of one or more members of **FRIL** (FlK2/Flt3 tyrosine kinase receptor-interacting lectin) family of progenitor cell preservation factors, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a recombinant nucleic acid (II) encoding (I);

(2) a pharmaceutical formulation (III) comprising (I);

(3) an isolated progenitor cell or population of progenitor cells (IV) isolated, by contacting the cell(s) with **FRIL** family member molecule(s);

(4) identifying (M1) a composition of a member of **FRIL** family of progenitor cell preservation factors, by contacting a candidate compound with a glycosylated extracellular domain of an FLT3 receptor, where the glycosylation pattern of the extracellular domain of the FLT3 receptor is the same as the glycosylation pattern of an extracellular domain of a normally glycosylated FLT3 receptor and the candidate compound that binds to the glycosylated extracellular domain of FLT3 receptor is identified as composition of a **FRIL** family member; and

(5) an essentially pure composition of a **FRIL** family member identified by M1.

ACTIVITY - Cytostatic; antianemic; immunostimulant.

The effect of **FRIL** purified from Dolichos lab to protect mice from 5-fluorouracil (5-FU)-induced death was studied. Weight-matched BALB/c mice (10 mice/group) were injected intravenously with either with 0.2 ml of Dl-**FRIL** (500 mg/ml) or 0.2 ml of Hanks buffered saline solution (HBSS) daily for 4 days. Two hours after the final treatment of Dl-**FRIL**, mice were injected intraperitoneally with 5-FU (150 mg/kg). Groups of mice received a second dose of 5-FU (150 mg/kg) at either day 3 or 5. The results showed that Dl-**FRIL** pretreatment improved survival of mice. 3 of 10 mice survived a d0/3 dose interval of 5-FU compared to no mice in the HBSS pretreatment control.

MECHANISM OF ACTION - Alleviates or reduces progenitor cell-depleting activity of a therapeutic treatment.

USE - (I) is useful for alleviating or reducing the hematopoietic progenitor cell-depleting activity of a therapeutic treatment, including radiotherapeutic, chemotherapeutic (cytarabine, doxorubicin or 5-fluorouracil) and their combinations in a patient, preferably a human having cancer. Administration of (I) to a patient prior to treatment of the patient with a therapeutic treatment having a hematopoietic progenitor cell-depleting activity alleviates or reduces the hematopoietic progenitor cell-depleting activity of the therapeutic treatment in the patient. **FRIL** family members are useful for isolating population of progenitor cells, hemangioblasts, mesenchymal stem cells, progenitor cells of bone, brain, liver, endothelial cells, embryonal stem cells, dendritic progenitor cells, especially hematopoietic progenitor cells from a human. The method involves contacting a population of cells, preferably whole blood, umbilical cord blood, bone marrow cells or fetal liver cells or a sorted population of cells which does not express a cell surface molecule such as CD11b, CD11c or CD38 with several **FRIL** family member molecules, detected labeled **FRIL**, immobilized on a solid support, such as magnetic bead at the bottom of the tissue culture plate and separating the unbound cells by applying a magnet. The sorted population of cells are sorted by flow cytometry or by magnetic bead selection. The transplantation of isolated population of progenitor cells into an animal lacking a population of hematopoietic progenitor cells sufficient to enable survival of the animal reconstitutes the animal and the transplanted animal survives. (I) is useful for preserving progenitor cells ex vivo, by contacting bone marrow cells with (I), where the non-progenitor cells in the bone marrow cells differentiate or die and also for in vivo preservation. Further (I) is also useful for identifying a progenitor cell, by identifying binding of a candidate cell to **FRIL** family member molecule (all claimed). (I) is administered to patients to reduce progenitor cell depleting effects of chemotherapeutics, so that the patient can receive a higher dose of the chemotherapeutic and preferably recover from cancer and is also administered to patients having, or predisposed to developing a condition where the patients

hematopoietic progenitor cells are depleted, such as severe combined immunodeficiency or aplastic anemia. The isolated mesenchymal.cells are useful for tissue repair.

ADVANTAGE - Members of **FRIL** family are non-toxic, inexpensively produced reagents that preserve progenitor cells. Purification of **FRIL** family member molecule from a legume is rapid and inexpensive and results in large amount of pure lectin. They preserve hematopoietic stem and progenitor cells in a dormant state for extended period, even in the presence of potent stimulators of proliferation and differentiation.

Dwg.0/37

FS CPI EPI

FA AB; DCN

MC CPI: B04-E02B; B04-F01; B11-C08E; D05-H08; D05-H14B2; D05-H18
EPI: S03-E14H4

TECH UPTX: 20010822

TECHNOLOGY FOCUS - BIOTECHNOLOGY - Preferred Composition: The **FRIL** family member is from a legume, such as Phaseolus vulgaris, Dolichos lab and Sphenostylis stenocarpa. The **FRIL** family member is a substitution, deletion, addition mutant or their combination derived from another member of **FRIL** family or is a fusion protein comprising a first portion derived from another member of **FRIL** family and a second portion.

Preferred Cells: (IV) are from human and does not express CD34. The cells express a receptor tyrosine kinase such as FLK1, FLT1, FLT3, FLT4 and Kit and a cell surface molecule such as CD11b and CD11c.

Preferred Method: In (V), the candidate compound is from legume or a synthetic lectin.

ABEX

ADMINISTRATION - Administered by parenteral, intravenous, intraarterial, subcutaneous, transdermal, topical, intrapulmonary, intramuscular, intraperitoneal, intranasal, intrarectal, intravaginal or oral route. Dosage is 5-50 microg/kg, preferably 50 microg/kg.

EXAMPLE - FRIL (FlK2/Flt3 tyrosine kinase receptor-interacting lectin) family member was isolated from Dolichos lab and referred to as Dl-FRIL. Total RNA was prepared from mid-maturation Dolichos lab seeds and used to generate cDNA. Two degenerate oligonucleotide primers were designed using Phaseolus codon usage. A 500 bp product was amplified from cDNA by 30 cycles of polymerase chain reaction (PCR) and cloned in the cloning vector, pCR2.1 and sequenced. The sequence was designated Dl-FRILa. Based on the sequence of the Dl-FRILa amplified product, a specific primer (GTTGGACGTCAATTCCGATGTG) was prepared and a degenerate primer (GC(TC)CA(AG)TC(TC)CT(TC)TC(TC)TT) were used in combination to amplify a 480 bp product from the cDNA, through 30 PCR cycles. The secondary amplified fragment was cloned into pCR2.1 vector, sequenced and designated Dl-FRILb. The 3' end of Dl-FRIL was obtained through rapid amplification of cDNA ends by PCR. A 900+bp product was obtained, which was subcloned in pCR2.1 and was designated Dl-FRILc. To obtain the full length cDNA clone, the anchor primer AP (GACCACGCGTATCGATGTCGAC) was used in combination with a specific primer (GCACAGTCATTGTCATTTAG). The full length cDNA was obtained through 30 cycles of PCR and ligated into EcoRI site of the cloning vector pCR2.1, resulting in the final product pCR2.1-DLA. To establish functionality of homologs of the protein encoded by the Dl-FRIL cDNA, a mutation was made in the Dl-FRIL cDNA clone. Asparagine residue involved in binding to its saccharide ligand was mutated to aspartic acid. The recombinant mutated product cloned into pCR2.1 was referred as pCR2.1-DLA(D). The Dl-FRIL wild-type cDNA and mutant clones were ligated into the EcoRI/SalI and EcoRI/XhoI of the expression vector pGEX 4T-1 to form the expression constructs pGEX-M1 and pGEXM1(D) and expressed by transforming into Escherichia coli. Cord blood mononuclear cells (CB mnc) were isolated from umbilical cord blood from healthy donors and cultured in 6 well tissue culture plates at a concentration of 200000 cells/ml. 40 ng/ml of Dl-FRIL and/or recombinant Escherichia coli Flt3-L were added and

cultures were incubated for 29 days. The cultured CB mnc cells were harvested by washing to remove the Dl-FRIL and/or recFL and then determining viable cell number by trypan blue exclusion. The results showed that recombinant Dl-FRIL preserved cord blood mononuclear cells and progenitors in a dose-responsive manner in liquid culture. After 15, 21 or 29 days of incubation, Dl-FRIL but not recFL, preserved progenitors in suspension culture.

=> fil uspatall
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FILE 'USPAT2' ENTERED AT 12:12:16 ON 31 JAN 2003
CA INDEXING COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

=> d bib ab

L43 ANSWER 1 OF 1 USPATFULL
AN **2001:191261** USPATFULL
TI Nucleic acid encoding a lectin-derived progenitor cell preservation factor
IN Colucci, M. Gabriella, Dugenta, Italy
Chrispeels, Maarten J., La Jolla, CA, United States
Moore, Jeffrey G., New York, NY, United States
PA ImClone Systems Incorporated, New York, NY, United States (U.S. corporation)
PI US 6310195 B1 20011030
AI US 1997-881189 19970624 (8)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Saunders, David; Assistant Examiner: Tung, Mary Beth
LREP Hale and Dorr LLP
CLMN Number of Claims: 17
ECL Exemplary Claim: 3
DRWN 17 Drawing Figure(s); 14 Drawing Page(s)
LN.CNT 1767
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to an isolated nucleic acid molecule that encodes a protein that is effective to preserve progenitor cells, such as hematopoietic progenitor cells. The nucleic acid comprises a sequence defined by SEQ ID NO:1, a homolog thereof, or a fragment thereof. The encoded protein has an amino acid sequence that comprises a sequence defined by SEQ ID NO:2, a homolog thereof, or a fragment thereof that contains an amino acid sequence TNNVLQVT. Methods of using the encoded protein for preserving progenitor cells in vitro, ex vivo, and in vivo are also described. The invention, therefore, include methods such as myeloablation therapies for cancer treatment wherein myeloid reconstitution is facilitated by means of the specified protein. Other therapeutic utilities are also enabled through the invention, for example, expanding progenitor cell populations ex vivo to increase chances of engraftation, improving conditions for transporting and storing progenitor cells, and facilitating gene therapy to treat and cure a broad range of life-threatening hematologic diseases.

=> d his

(FILE 'HOME' ENTERED AT 11:48:01 ON 31 JAN 2003)
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L1              2 S E3,E4
                  E DOXORUBICIN/CN
L2              1 S E3
                  E 5-FLUOROURACIL/CN
L3              1 S E3
L4            219 S (51-21-8 OR 23214-92-8 OR 147-94-4)/CRN

      FILE 'HCAPLUS' ENTERED AT 11:50:18 ON 31 JAN 2003
                  E FRIL
L5             13 S E3
                  E AGGLUTIN/CT
L6          18713 S E27-E74
L7           1207 S E25,E26
                  E E27+ALL
L8          35033 S E3,E2+NT
                  E LECTIN/CT
                  E E6+ALL
L9              2 S E1
L10             6 S L5 AND L6-L9
L11             7 S L5 NOT L10
                  SEL DN AN 1 7
L12             2 S L11 AND E1-E6
L13             8 S L10,L12
L14             3 S L1-L4 AND L13
L15             3 S (CYTARABIN? OR DOXORUBICIN? OR 5 FU OR 5 FLUOROURACIL?) AND L
L16             6 S L13 AND (PROGENIT? OR ?HEMATOPO? OR ?HAEMATOPO?)
L17             4 S L13 AND FLT#
L18             8 S L13-L17
                  E COLUCCI M/AU
L19            41 S E3-E5,E10,E11
                  E CHRISPEELS M/AU
L20           263 S E4-E8
                  E MOORE J/AU
L21           198 S E3,E20,E21
                  E MOORE JEFF/AU
L22            24 S E3,E9,E16
                  E COLUCCI G/AU
L23            39 S E3-E6
L24             6 S L18 AND L19-L23
L25             3 S PHYLOG?/PA,CS AND L18
L26             8 S L18,L24,L25
L27             1 S ADRIAMYCIN AND L26
L28             8 S L26,L27
L29             8 S L28 AND ?FRIL?

      FILE 'BIOSIS' ENTERED AT 12:00:52 ON 31 JAN 2003
                  E FRIL
L30            14 S E3
L31             6 S L30 AND LECTIN?
L32             8 S L30 NOT L31
L33             6 S L31 AND (COLUCCI ? OR CHRISPEELS ? OR MOORE ?)/AU

      FILE 'MEDLINE' ENTERED AT 12:02:23 ON 31 JAN 2003
                  E FRIL
L34            10 S E3
                  SEL DN AN 4 6 8 9
                  DEL SEL
                  SEL DN AN 5 6 8 9 L34
L35             4 S L34 AND E1-E12
L36             4 S L35 AND (COLUCCI ? OR CHRISPEELS ? OR MOORE ?)/AU

      FILE 'HCAPLUS, BIOSIS, MEDLINE' ENTERED AT 12:06:21 ON 31 JAN 2003
L37            12 DUP REM L29 L33 L36 (6 DUPLICATES REMOVED)
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FILE 'HCAPLUS, BIOSIS, MEDLINE' ENTERED AT 12:07:03 ON 31 JAN 2003

FILE 'WPIX' ENTERED AT 12:08:22 ON 31 JAN 2003
E FRIL
L38 4 S E3
L39 2 S L38 NOT (OXETANE OR TRUCK)/TI

FILE 'WPIX' ENTERED AT 12:09:31 ON 31 JAN 2003
SEL PN APPS

FILE 'DPCI' ENTERED AT 12:10:05 ON 31 JAN 2003
L40 0 S E1-E10

FILE 'USPATFULL, USPAT2' ENTERED AT 12:10:16 ON 31 JAN 2003
E FRIL
L41 9 S E3
SEL AN 4
L42 1 S E1
L43 1 S L41 AND L42

FILE 'USPATFULL, USPAT2' ENTERED AT 12:12:16 ON 31 JAN 2003